

Test Procedure for the NCV705XXGEVK

Required Equipment:

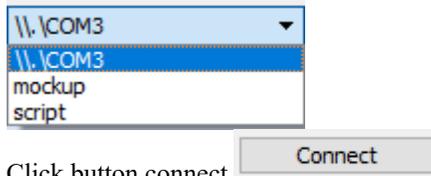
- Bench power supply with current limitation of 3A minimum or with huge output capacitor
- SPI_Stepper_Driver_EVK mother board with ONMCU_DIL control board
- NCV70517R1DAGEVB / NCV70514R1DAGEVB / NCV70516R1DAGEVB daughter board
- Stepper motor
- GUI SW Stepper Driver EVK installed on PC

Initial setup:

1. Connect power supply to VBAT (positive) and GND (negative) 4mm bananas, set voltage to 13 V with current limitation app. 2 A and switched it on
2. Connect USB mini cable to ONMCU_DIL control board

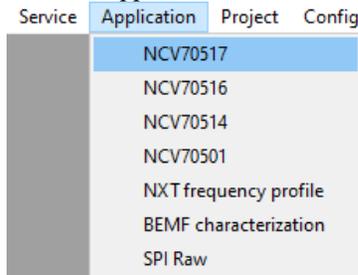
3. Start GUI SW Stepper Driver EVK. In status bar click icon  to refresh information about available virtual COM ports.

Select port where EVK is connected:



Click button connect

4. In menu Application select manually which daughter board is put to EVK:



Window allowing access to all registers will appear.

Test procedure

5. Check whether SPI communication is working correctly:
 - a. On NCV70517 or NCV70516 try to read DEVID and REVID register (Status register 4 at address 08hex), value 16 or 17 should appear in DEVID field.
 - b. NCV70514 and NCV70501 do not have this register, so try to read out reset bit HR (Status register 1), this bit should be 1 during first read indicating that device has been in reset condition and after next read the bit should be cleared.
6. Try to rotate with motor:
 - a. Connect stepper motor to the EVK if not yet connected
 - b. Clear all Status registers by clicking “Read All” button twice
 - c. Set all necessary registers (set value and click “Write”, then you can check by “Read” to check if written value is really present in the device): IMOT/IRUN to app. 400 mA, RHBP to 1 (on NCV70514 or NCV70501 device) and MOTEN to 1
 - d. In “NXT generator” section on top left select “MCU” as source of the pulses and put 1000 [Hz] to the “Set Freq” field and push button “Set Freq”
 - e. Motor should rotate
 - f. Try to change state of the DIR pin on the left to check whether connection to daughter board is ok. Direction of motor rotation should change.
 - g. Write MOTEN to 0, stop sending NXT pulses by unchecking MCU in NXT pulse generator and click “Disconnect” in status bar, disconnect mini USB cable and switch off power supply.